

2. 5,658,785, Aug. 19, 1997, Adeno-associated virus materials and methods; Philip R. Johnson, 435/367, 320.1, 325, 369 :IMAGE AVAILABLE:

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ABSTRACT:

The present invention provides adeno-associated virus (AAV) materials and methods which are useful for DNA delivery to cells. More particularly, the invention provides recombinant AAV (rAAV) genomes, methods for packaging rAAV genomes, stable host cell lines producing rAAV and methods for delivering genes of interest to cells utilizing the rAAV. Particularly disclosed are rAAV useful in generating immunity to human immunodeficiency virus-1 and in therapeutic gene delivery for treatment of neurological disorders.

SUMMARY:

BSUM(14)

Presently preferred rAAV genomes include the SIV rev and envelope (gpl60) genes, or the HIV rev and envelope genes, as the non-AAV DNA(s) of interest. Also preferred are rAAV genomes which contain sequences encoding proteins which may ameliorate neurological disorders such as: sequences encoding nerve growth factor (NGF), ciliary neurotrophic factor (CNTF), brain-derived neurotrophic factor (BDNF), neurotrophins 3 and 4/5 (NT-3 and 4/5), glial cell derived neurotrophic factor (GDNF), transforming growth factors (TGF), and acidic and basic fibroblast growth factor (a and bFGF); sequences encoding tyrosine hydroxylase (TH) and aromatic amino acid decarboxylase (AADC); sequences encoding superoxide dismutase (SOD 1 or 2), catalase and **glutathione peroxidase**; sequences encoding interferons, lymphokines, cytokines and antagonists thereof such as tumor necrosis factor (TNF), CD4 specific antibodies, and TNF or CD4 receptors; sequences encoding GABA receptor isoforms, the GABA synthesizing enzyme glutamic acid decarboxylase (GAD), calcium dependent potassium channels or ATP-sensitive potassium channels; and sequences encoding thymidine kinase. Recombinant AAV genomes including antisense nucleotides that affect expression of certain genes such as cell death suppressor genes (e.g., bcl-2) or that affect expression of excitatory amino acid receptors (e.g., glutamate and NMDA receptors) are also contemplated for modulating neurological disorders.